

PATENT  
Docket No.: TW000002  
Customer No. 000024737

## REMARKS

By this amendment, claim 1 has been amended. Claims 6-12 have previously been cancelled. Claims 1-5 and 13 remain in the application. This application has been carefully considered in connection with the Examiner's Action. Reconsideration and allowance of the application, as amended, is respectfully requested.

### Rejection under 35 U.S.C. § 103

Claims 1-3 and 5 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Schultz et al ("Multiframe integration via the projective transformation with automated block matching feature point selection") in view of Jasinschi et al (USPN 6,504,569), and further in view of Nettles (USPN 5,430,806).

Applicants traverse this rejection on the grounds that these references are defective in establishing a prima facie case of obviousness with respect to claim 1. The Schultz, Jasinschi, and Nettles references cannot be applied to reject claim 1 under 35 U.S.C. § 103 in that, when evaluating a claim for determining obviousness, all limitations of the claim must be evaluated. However, since neither Schultz nor Jasinschi nor Nettles teaches ... determining, as a function of the first projective transformation parameters, second projective transformation parameters of a projective transformation for application in the non-translated original coordinate systems of the two images, wherein determining the second projective transformation parameters comprises altering the first projective transformation parameters in the translated coordinate system using translation vectors, wherein the translation vectors ensure an equivalence of (i) the projective transformation in the original coordinate systems and (ii) the projective transformation in the translated coordinate system is true ... as is claimed in claim 1, it is impossible to render the subject matter of claim 1 as a whole obvious.

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In contrast, Schultz teaches an automated image registration algorithm based on projective transformation which accounts for camera translation, rotation, zoom, pan and tilt, wherein feature selection is performed by a block matching algorithm and wherein end-points of translation vectors serve as feature point pairs. Shultz further discloses calculating a least squares solution for the projective transformation using only the "best" feature point pairs (Shultz, page 3266, first column, last paragraph; and page 3267, second column, first paragraph).

Jasinschi, on the other hand, teaches extracting 3D data (as opposed to 2D data) from a video sequence. Jansinschi discloses generating a 2D extended image from 3-D data extracted from the video sequence of a 3D scene, that is, from motion parameters and a depth map using a plane perspective projection technique (in contrast to merging a pair of overlapping 2D images into a composite image). In addition, Jansinchi discloses a "preprocessing stage" in which different sets of camera parameters are estimated.

With respect to the preprocessing stage, Jansinschi discloses the need for dividing an image into identical image blocks, so that each block contains the same number of feature points to enforce that the feature points used in the estimation of the camera parameters span the whole extension of the input image  $I_k$ , (Jansinschi at Col 6, lines 42-55). Jansinschi also discloses calibration of feature point coordinates using a coordinate calibration transformation in the estimation of an essential (E) matrix. However, the calibration of feature point coordinates in the identical image blocks of Jansinschi is directed to a method in which identical non-overlapping image blocks contain the same number of feature points to enforce that the feature points used in the estimation of the camera parameters span the whole extension of the input image  $I_k$ .

Lastly, Nettles teaches a system for changing a perspective view of 3-D images

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obtained from reflected energy signals. To create a new image, each data element's row-column address is first converted into a spherical coordinate. The spherical coordinate is then converted into a 3-D Cartesian coordinate, and the Cartesian coordinate is translated and rotated to achieve a new perspective. In Nettles, it is a third coordinate system that is subjected to a translation and rotation.

Thus, a *prima facie* case of obviousness has clearly not been met, and the rejection under 35 U.S.C. §103 should be withdrawn. Accordingly, claim 1 is allowable and an early formal notice thereof is requested.

With respect to claims 2, 3, 5 and 13, the claims depend from and add further limitation, in a patentable sense, to allowable claim 1. Accordingly, claims 2, 3, 5 and 13 are believed allowable.

Claim 4 was rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Schultz, Jasinski, and Nettles as applied to claim 1 above, and further in view of well known prior art. Applicant respectfully traverses this rejection for at least the following reasons. Claim 4 depends from and further limits, in a patentable sense, allowable independent claim 1 and therefore is allowable as well.

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**Conclusion**

It is clear from all of the foregoing that independent claim 1 is in condition for allowance. Dependent claims 2-5 and 13 depend from and further limit independent claim 1 and therefore are allowable as well.

The amendments herein are fully supported by the original specification and drawing, therefore, no new matter is introduced.

An early formal notice of allowance of claims 1-5 and 13 is respectfully requested.

Respectfully submitted,

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